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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/042,973	01/09/2002	Arthur Devon Mitchell	BLD920010016US1	6668

23550 7590 06/27/2005

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EXAMINER

LE, DIEU MINH T

ART UNIT PAPER NUMBER

2114

DATE MAILED: 06/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/042,973

Applicant(s)

MITCHELL, ARTHUR DEVON

Examiner

Dieu-Minh Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This Office Action is in response to the RCE filed April 13, 2005 in application 10/042,973.
2. Claims 1-19 are again presented for examination.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4-7, 10, 13, 15, 18-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claims 4-7, 10, 13, 15, 18-19, Applicants amended these claims by changing "physically" [replace or move or disconnect] instead of "automatically replaces". Examiner found this is contradict to the specification [see line 15, page 3 in the specification]. Appropriate clarification is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Terrell et al. (US PG PUB 2003/0210686 A1) hereafter referred to as Terrell) in view of McAllister et al. (US Patent 6,876,625) hereafter referred to as McAllister).

As per claim 1:

Terrell explicitly teaches:

- A network router [fig. 1, item 102] having an internal automatic backup [col. 6, par. 0070] comprising:

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- a primary port facility [fig. 1, col. 6, par. 0067];
- a card array (i.e. network adapter on a single integrated circuit) [fig. 1, item 105] having at least one backup router card [fig. 1, item 104 or members 113-117];
- a switch fabric [fig. 2, item 211 and 213, col. 25, par. 0202], wherein the switched fabric automatic replaces a failed router card connected to the primary port facility with a backup router card from the card array (i.e. network adapter on a single integrated circuit) [fig. 1, col. 6, par. 0066 and 0070].

Terrell does not explicitly teach:

- **unutilized** backup router card.

However, Terrell does disclose capability of:

- An improved networks having routers that perform routing functions and to methods for routing network traffic [abstract, fig. 1, col. 1, par. 0002] comprising:
 - a connectivity among routers, application program, display, other computing communication devices, etc... [fig. 1-3, col. 5, par. 0064];
 - **network redundancy, multiple or expanded network ports** [col. 6, par. 0070].

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- *routing circuits having ring input/output ports used to support backup and redundancy within routing network* [col. 26, par. 0211].

In addition, McAllister explicitly teaches:

- A communication network having a router redundancy recovery [abstract, fig. 4, col. 1, lines 9-17] comprising:
 - Active and inactive routing entry via switch fabric [fig. 4, col. 21, lines 26-67].
 - *activate the inactive routing connection (i.e., unutilized backup routing function) in supporting the routing network communication via internal and external capabilities (i.e., physical replacement process)* [fig. 4, col. 21, lines 26-67].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of Applicant's invention was made to first realizing Terrell's *network redundancy, multiple or expanded network ports, and routing circuits having ring input/output ports used to support backup and redundancy within routing network as being the unutilized* backup router card as claimed by Applicant. This is because Terrell explicitly deal with the routing communication failure detection and

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correction within the plurality of routing nodal connectivity. Therefore, routing backup and redundancy functions including both logical and physical devices and connectivity are obviously a must in providing a through failure prediction, analysis, and replacement in ensuring the system operation correctly; second, by applying the *activate the inactive routing connection (i.e., unutilized backup routing function) in supporting the routing network communication via internal and external capabilities (i.e., physical replacement process* as taught by McAllister in conjunction with the improved networks having routers that perform routing functions and to methods for routing network traffic as disclosed by Terrell, the routing networking system can enhance its operation performance, more specifically to ensuring the failure be monitored, detected, prioritized, and replaced in proper and efficient manner. One of ordinary skill in the art would have been motivated to do so to improve the routing communication system operation availability and network/system performance throughput therein.

As per claim 2:

Terrell further explicitly teaches:

- the primary port facility comprises a primary processor and secondary processor [fig. 24, processor 2402 and 2404].

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As per claim 3:

Terrell further explicitly teaches:

- a primary port facility has serial connection ports for connection to router card [fig. 1, col. 26, par. 0205].

As per claim 4:

Terrell further explicitly teaches:

- an information system for receiving a failure message (i.e., error reports) [fig. 6, item 602] from the primary port facility [fig. 1 and 2, col. 29, par. 0229 and col. 38, par. 0281 and 0285];
- a switching system (i.e., redirected message) for physically replacing the failure router card with the backup router card in response to the failure message [fig. 1 and 2, col. 25, par. 0202 and col. 38 par. 0285];
- abort a routing transaction and remove a routing connection in supporting the routing fail-over capability [col. 16, table 14].

As per claim 5:

Terrell further explicitly teaches:

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- the information system includes a bus for communicating routing information between the primary port facility and the card array [fig. 1 and 2, col. 26, par. 0205].

As per claim 6:

Terrell further explicitly teaches:

- the switching system [col. 25, par. 0202] includes a replacement mechanism for physically replacing the failed router card with the backup router card [fig. 1 and 2, col. 6, par. 0066 and 0070].

As per claim 7:

Terrell further explicitly teaches:

- the failed router card is physically moved into an expanded bay(i.e., expanded network device, redundancy due to failure) by the switch fabric [fig. 2, item 211 and 213, col. 25, par. 0202].

As per claim 19:

Terrell further explicitly teaches:

- the switching system [col. 25, par. 0202] includes a replacement mechanism for mechanically replacing the failed

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router card with the backup router card [fig. 1 and 2, col. 6, par. 0066 and 0070];

- abort a routing transaction and remove a routing connection in supporting the routing fail-over capability [col. 16, table 14].

In addition, McAllister explicitly teaches:

- A communication network having a router redundancy recovery [abstract, fig. 4, col. 1, lines 9-17] comprising:

- Active and inactive routing entry via switch fabric [fig. 4, col. 21, lines 26-67];

- *activate the inactive routing connection (i.e., unutilized backup routing function) in supporting the routing network communication via internal and external capabilities (i.e., physical replacement process)* [fig. 4, col. 21, lines 26-67].

As per claims 8-13:

These claims are similar to claims 1-7 and 19. The only minor different is that claim 8 include "the switched fabric includes an information system for receiving a failure message from the primary port facility and a switching system for replacing the failed router card with the backup router card"

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limitation; however, this limitation is illustrated in dependent claim 4 of independent claim 1. Therefore, these claims are also rejected under the same rationale applied against claims 1-7 and 19. **In addition, all of the limitations have been noted in the rejection as per claims 1-7 and 19.**

As per claims 14-18:

These claims are similar to claims 1-7 and 19. The only minor different is that claim 14 include " a primary port facility having a primary processor and a secondary process" limitation and "the switched fabric includes an information system for receiving a failure message from the primary port facility and a switching system for replacing the failed router card with the backup router card" and limitation; however, these limitations are illustrated in dependent claims 2 and 4. Therefore, these claims are also rejected under the same rationale applied against claims 1-7 and 19. **In addition, all of the limitations have been noted in the rejection as per claims 1-7 and 19.**

6. Claims 1-19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Terrell et al. (US PG PUB 2003/0210686 A1)

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hereafter referred to as Terrell) in view of Nair et al. (US
PGPUB 2002/0103921 hereafter referred to as Nair).

As per claim 1:

Terrell explicitly teaches:

- A network router [fig. 1, item 102] having an internal automatic backup [col. 6, par. 0070] comprising:
 - a primary port facility [fig. 1, col. 6, par. 0067];
 - a card array (i.e. network adapter on a single integrated circuit) [fig. 1, item 105] having at least one backup router card [fig. 1, item 104 or members 113-117];
 - a switch fabric [fig. 2, item 211 and 213, col. 25, par. 0202], wherein the switched fabric automatic replaces a failed router card connected to the primary port facility with a backup router card from the card array (i.e. network adapter on a single integrated circuit) [fig. 1, col. 6, par. 0066 and 0070].

Terrell does not explicitly teach:

- **unutilized** backup router card.

However, Terrell does disclose capability of:

- An improved networks having routers that perform routing functions and to methods for routing network traffic [abstract, fig. 1, col. 1, par. 0002] comprising:
 - a connectivity among routers, application program, display, other computing communication devices, etc... [fig. 1-3, col. 5, par. 0064];
 - **network redundancy, multiple or expanded network ports** [col. 6, par. 0070].
- *routing circuits having ring input/output ports used to support backup and redundancy within routing network* [col. 26, par. 0211].

In addition, Nair explicitly teaches:

- A routing fail-over/backup networking system [abstract, fig. 5, col. 2, par. 0031-0032] comprising:
 - **router failure recovery via primary and secondary router on a first and second router cards** [fig. 5, col. 8, claims 7-10].
 - **router components connected for redundancy purpose via fabric subsystems** [col. 3, par. 0035 and 0041].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of Applicant's invention

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was made to first realizing Terrell's **network redundancy, multiple or expanded network ports, and routing circuits having ring input/output ports used to support backup and redundancy within routing network as being the unutilized** backup router card as claimed by Applicant. This is because Terrell explicitly deal with the routing communication failure detection and correction within the plurality of routing nodal connectivity. Therefore, routing backup and redundancy functions including both logical and physical devices and connectivity are obviously a must in providing a through failure prediction, analysis, and replacement in ensuring the system operation correctly; second, by applying the **router failure recovery via primary and secondary router on a first and second router cards** as taught by Nair in conjunction with the improved networks having routers that perform routing functions and to methods for routing network traffic as disclosed by Terrell, the routing networking system can enhance its operation performance, more specifically to ensuring the failure be monitored, detected, prioritized, and replaced in proper and efficient manner. One of ordinary skill in the art would have been motivated to do so to improve the routing communication system operation availability and network/system performance throughput therein.

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As per claim 2:

Terrell further explicitly teaches:

- the primary port facility comprises a primary processor and secondary processor [fig. 24, processor 2402 and 2404].

As per claim 3:

Terrell further explicitly teaches:

- a primary port facility has serial connection ports for connection to router card [fig. 1, col. 26, par. 0205].

As per claim 4:

Terrell further explicitly teaches:

- an information system for receiving a failure message (i.e., error reports) [fig. 6, item 602] from the primary port facility [fig. 1 and 2, col. 29, par. 0229 and col. 38, par. 0281 and 0285];
- a switching system (i.e., redirected message) for physically replacing the failure router card with the backup router card in response to the failure message [fig. 1 and 2, col. 25, par. 0202 and col. 38 par. 0285];
- abort a routing transaction and remove a routing connection in supporting the routing fail-over capability [col. 16, table 14].

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As per claim 5:

Terrell further explicitly teaches:

- the information system includes a bus for communicating routing information between the primary port facility and the card array [fig. 1 and 2, col. 26, par. 0205].

As per claim 6:

Terrell further explicitly teaches:

- the switching system [col. 25, par. 0202] includes a replacement mechanism for physically replacing the failed router card with the backup router card [fig. 1 and 2, col. 6, par. 0066 and 0070].

As per claim 7:

Terrell further explicitly teaches:

- the failed router card is physically moved into an expanded bay(i.e., expanded network device, redundancy due to failure) by the switch fabric [fig. 2, item 211 and 213, col. 25, par. 0202].

As per claim 19:

Terrell further explicitly teaches:

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- the switching system [col. 25, par. 0202] includes a replacement mechanism for mechanically replacing the failed router card with the backup router card [fig. 1 and 2, col. 6, par. 0066 and 0070];
- abort a routing transaction and remove a routing connection in supporting the routing fail-over capability [col. 16, table 14].

In addition, Nair explicitly teaches:

A routing fail-over/backup networking system [abstract, fig. 5, col. 2, par. 0031-0032] comprising:

- ***router failure recovery via primary and secondary router on a first and second router cards*** [fig. 5, col. 8, claims 7-10].
- ***router components connected for redundancy purpose via fabric subsystems*** [col. 3, par. 0035 and 0041].

As per claims 8-13:

These claims are similar to claims 1-7 and 19. The only minor different is that claim 8 include "the switched fabric includes an information system for receiving a failure message from the primary port facility and a switching system for replacing the failed router card with the backup router card"

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limitation; however, this limitation is illustrated in dependent claim 4 of independent claim 1. Therefore, these claims are also rejected under the same rationale applied against claims 1-7 and 19. In addition, all of the limitations have been noted in the rejection as per claims 1-7 and 19.

As per claims 14-18:

These claims are similar to claims 1-7 and 19. The only minor different is that claim 14 include " a primary port facility having a primary processor and a secondary process" limitation and "the switched fabric includes an information system for receiving a failure message from the primary port facility and a switching system for replacing the failed router card with the backup router card" and limitation; however, these limitations are illustrated in dependent claims 2 and 4 of independent claim 1. Therefore, these claims are also rejected under the same rationale applied against claims 1-7 and 19. In addition, all of the limitations have been noted in the rejection as per claims 1-7 and 19.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

8. A shortened statutory period for response to this action is set to expired THREE (3) months, ZERO days from the date of this letter. Failure to respond within the period for response will cause the application to be abandoned. 35 U.S.C. 133.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dieu-Minh Le whose telephone number is (571) 272-3660. The examiner can normally be reached on Monday - Thursday from 8:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (571)272-3645. The Tech Center 2100 phone number is (571) 272-2100.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


DIEU-MINH THAI LE
PRIMARY EXAMINER
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